

1/2 015

UNCLASSIFIED

PROCESSING DATE--02OCT70

TITLE--HYDROGENATION OF M AND P-PHENYLENEDIAMINES ON RUTHENIUM DIOXIDE -U-

AUTHOR-(05)-GENKINA, YE.V., MALTOMOVA, A.B., MEDVEDEVA, I.M., ZENKINA,  
N.G., RYZHEVIKO, L.M.  
COUNTRY OF INFO--USSR

R

SOURCE--ZH. VSES. KHIM. OBSHCHEST. 1970, 15(1) 118

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYTIC HYDROGENATION, GAS CHROMATOGRAPHY, ANILINE,  
CYCLOHEXANE, PHENYLENE, DIAMINE, RUTHENIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1412 STEP NO--UR/0063/70/015/001/0118/0118

CIRC ACCESSION NO--AP0112406

UNCLASSIFIED

275 015

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO—AP0112406

ABSTRACT/EXTRACT--(U) GP-0 ABSTRACT. HYDROGENATION OF M AND P-C SUB6 H  
SUB4 (NH SUB2) SUB2 AT 100-800DEGREES-180-200 IN MEOH OR DIOXANE OVER  
RUO SUB2 AND EXAMN. OF THE PRODUCT BY GAS CHROMATOG. WAS REPORTED.  
ALONG WITH 1,3 AND 1,4,DIAMINOCYCLOHEXANE, THE REACTION GAVE PHNH SUB2  
AND CYCLOHEXYLAMINE, WHICH PROVED THAT A PARTIAL DEAMINATION TOOK PLACE  
EVEN AT 100-20DEGREES. THE YIELD OF PHNH SUB2 WAS 10-15PERCENT AND THAT  
OF CYCLOHEXYLAMINE 1-2PERCENT.

UNCLASSIFIED

446 U26  
TITLE--COPOLYMERIZATION OF LACTAMS OF HEXAHYDRO-P, AND M,AMINOBENZOIC ACIDS  
-U-  
AUTHOR-(04)-VOLOKHINA, A.V., KHARITONOV, A.S., RYZHENKO, L.M.,  
KUDRYAVTSEV, G.I.  
COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SCEDIN. SER. B 1970, 12(3), 225-7  
DATE PUBLISHED--70

R

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--COPOLYMERIZATION, AMINE, BENZOIC ACID, CAPROLACTAM, INTRINSIC  
VISCOSITY, SYNTHETIC FIBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--2000/1676

CIRC ACCESSION NO--AP0125297

STEP NO--UR/0460/70/012/003/0225/0227

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125297

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE LACTAMS WERE POLYMD. AND COPOLYMD. IN VARIOUS PROPORTIONS IN THE PRESENCE OF 1 MOLE PERCENT METALLIC K AND 0.25 MOLE PERCENT N-ACETYL-EPSILON-CAPROLACTAM AT 200DEGREES TO GIVE THE STABLE TITLE POLYMERS (I) (SMALLER THAN OR EQUAL TO 400DEGREES). THE DEGREE OF CONVERSION AND THE INTRINSIC VISCOSITY WERE INVERSELY PROPORTIONAL TO THE REACTION TEMP., BUT WERE ESSENTIALLY INDEPENDENT OF MONOMER RATIOS. TENSILE FIBERS WERE OBTAINED FROM I DISSOLVED IN CONCD. H SUB2 SO SUB4. THE EFFECTS OF CHEM. STRUCTURE OF I ON THEIR SOFTENING POINTS ARE DISCUSSED. FACILITY: VSES.  
NAUCH.-ISSLED. IN T. ISKUSSTV. VOLOKNA, MYTISHCHI, USSR.

UNCLASSIFIED

USSR

UDC:620.17:669-419.4

ANDREYEVA, S. N., MEL'NIKOV, V. I. and RYZHENKO, V. I., Ukrainian  
Scientific Research Institute, Gidrougol", Voroshilovgrad

"Mechanical Properties of 30 + Kh12 Two-Layer Steel"

Metallovedeniye i Termicheskaya Obrabotka Metallov, No 2, 1974, pp 47-49

**Abstract:** The mechanical properties of the bimetal were studied in the 300-1200° C temperature interval at steps of 100°. Mechanical characteristics determined included strength  $\sigma_b$ , yield point  $\sigma_{0.2}$  and relative reduction in area  $\psi$ . At 1050-1170° C, 30 + Kh12 two-layer steel can be pressure worked. The plastic deformation is distributed evenly, allowing stresses in the zone of joining of the two layers to be avoided. At heating rates of 20-80° C/sec, there is a narrow temperature interval such that when 30 + Kh12 steel is heated to this temperature with subsequent sharp cooling in water to 200-250° C, a wear-resistant metastable austenitic structure is produced in the cladding layer of Kh12 steel.

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UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--THERMAL EXPANSION OF MOLECULAR CRYSTALS. III. TENSOR OF THE  
THERMAL EXPANSION OF BIBENZYL -U-

AUTHOR--RYZHENKOV, A.P.

R

COUNTRY OF INFO--USSR

SOURCE--KRISTALLOGRAFIYA 1970, 15(2), 326-8

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--BENZENE DERIVATIVE, CRYSTAL LATTICE, X RAY DIFFRACTION STUDY,  
ANISOTROPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1995/1408

STEP NO--UR/0070/70/015/002/0326/0328

CIRC ACCESSION NO--AP0116855

UNCLASSIFIED

2/2 022

CIRC ACCESSION NO--AP0116855

.UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE TEMP. DEPENDENCE WAS DED. OF CRYSTALS 3-4MM LONG WAS STUDIED BY X RAY DIFFRACTION AT 83-297DEGREES K, AND THE TENSOR COMPONENTS WERE CALCD. THE GREATEST EXPANSION TAKES PLACE IN THE AC PLANE IN A DIRECTION ALMOST PERPENDICULAR TO THE MOL. AXIS. LATTICE PARAMETERS ARE GIVEN. THE DATA ARE USED ALONG WITH EARLIER VALUES OF THE ELASTIC CONST. TENSORS (V. TESLENKO, ET AL., 1965) TO CALC. THE TENSOR FOR THE GENERALIZED GRUENEISEN COEFFS. IN THE QUASI HARMONIC APPROXN. AND TO EVALUATE THE ANISOTROPY FOR THE LATTICE VIBRATIONS.

FACILITY: INST. ELEMENTOORG. SOEDIN., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 612.826.4.014.46:[615.357.453+615.357.814.3]

RYZHENKOV, V. Ye. and SAPRONOV, N. S., Department of Pharmacology Institute of Experimental Medicine, Academy of Medical Sciences USSR, Leningrad

"Effect of Glucocorticoids and ACTH on the Excitability of the Hypothalamus and Limbic System in Dogs"

Moscow, Farmakologiya i Toksikologiya, No 5, 1972, pp 556-560

**Abstract:** Intravenous injection of dogs with glucocorticoids (hydrocortisone, dexamethasone) and ACTH had a biphasic effect on the excitability of the posterior hypothalamus - an increase followed by a more pronounced and longer-lasting depression. Unlike the glucocorticoids, ACTH did not have a direct effect on the excitability of the posterior (premamillary region) or anterior (supraoptic region) hypothalamus when injected into these brain structures. Injection of hydrocortisone and ACTH into the ventromedian amygdala decreased its excitability much more than did ACTH. Hydrocortisone increased while ACTH slightly decreased the excitability of the dorsal hippocampus.

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- 46 -

Acc. Nr: AP0047373

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Ref. Code: UR0589

PRIMARY SOURCE: Vestnik Khirurgii imeni I. I. Grekova, 1970,  
Vol 104, Nr 1, pp 107-111

THE EFFECT OF VARIOUS METHODS OF PREMEDICATION ON SOME  
NEURO-ENDOCRINOUS REACTIONS IN SURGICAL PATIENTS

By V. A. Leosko, V. E. Ryzhenkov, G. L. Kotomina, V. M. Koryutin and M. P. Romanikova

In 166 surgical patients the effect of various combinations of preparations used for premedication has been studied. The data obtained enabled the authors to recommend the authors a more wide use of cholinolytics of central action in a complex of premedication agents.

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REEL/FRAME

19790899

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USSR

UDC 621.325.5

RYZHAEVSKAYA, T. N., RYZHEVSKIY, A. G., SHAKHOV, E. K., SHLYANDIN, V. M.,  
Penza Polytechnical Institute

"A Percentage Time-Pulse Converter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,  
No 5, Feb 72, Author's Certificate No 327601, Division H, filed 27 Nov 69,  
published 26 Jan 72, p 169

Translation: This Author's Certificate introduces a percentage pulse-time converter which contains a control module, voltage comparison modules, a linearly varying voltage generator, a count pulse generator, coincidence circuits, OR circuits, a frequency divider, a switch, a digital pulse counter, pulse number counters. As a distinguishing feature of the patent, conversion accuracy is improved by adding another pulse counter. The outputs of the comparison modules are connected through the coincidence circuits to the counters, whose code outputs are connected to the inputs of the coincidence circuits. The other inputs of the coincidence circuits are connected to the code outputs of the additional counter. The outputs of the coincidence circuits are connected through the OR circuits to the digital counter and to the frequency divider.

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- 44 -

USSR

R Instruments and Measurements

UDC 621.317.791

IVANOV, G. YE., KIRIN, YU. P., RYZHEVSKIY, A. G., RYZHEVSKAYA, T. N.,  
SHLYANDIN, V. M.

"Procedure for Measuring Passive Parameters of Electric Circuits"

Moscow, Otkrytiya, Izobreteniya, Promyshlennye Obraztovy, Tovarnyye Znaki,  
No 17, 12 May 70, p 55, Patent No 270881, Filed 11 Feb 69

Translation: This Author's certificate introduces a procedure for measuring the passive parameters of electric circuits based on investigation of the transient process in a measuring circuit containing active and reactive elements. In order to widen the measurement limits, improve the accuracy of the beginning of the measurement range and decrease the power dissipated in the investigated element, a linearly varying voltage is fed simultaneously to the measuring circuit and the resistive voltage divider. The point at which the voltages at the midpoints of the measuring circuit and the divider are equal is determined, and the time interval proportional to the measured parameter is isolated.

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USSR

LERNER, M. I., PANTELEYEV, V. N., RYZHEVSKIY, A. G., SHLYANDIN, V. M.  
"Digital Display Device"

UDC 621.318.576

USSR Author's Certificate No 307401, filed 27 Nov 69, published 29 Jul 71 (from  
RZh--Avtomatika, Telemekhanika i vychislitel'naya tekhnika, No 4, Apr 72,  
Abstract No 4A474P)

Translation: A digital display device is proposed which contains a counting decade, a decoder, switches, a display tube, and switch transistors, the base outputs of which are connected via resistors to the outputs of the low-order flip-flop of the counting decade. In order to use low-voltage elements requiring a feed voltage which is positive with respect to the common point to control the indicator tube, the anodes of the indicator tube are connected via series-connected resistors and diodes to the power supply and via capacitors to the collectors of the switch transistors connected via resistors to the power supply, and the bases of the transistors are connected via resistors to the control pulse source. There is 1 illustration.

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- 7 -

USSR

UDC: 621.3.083.721

PANTELEYEV, V. N., RYZHEVSKY, A. G., and SHLYANDIN, V. M.  
"Shape of the Scanning Voltage in Time-Pulse Converters"

Novosibirsk, Avtometriya, No 5, 1971, pp 97-104

**Abstract:** Since the available literature offers no means of generalizing the choice of scanning voltage shape in analog-digital converters used for time-pulse conversion, the purpose of the authors is to develop such an approach. A possible application of the approach is to find new areas for the utilization of the time-pulse converter. Two types of possible equipment for generating the proper scanning voltage shape are shown in the form of block diagrams. It is shown that the shape is determined by the type of conversion parameter and by the conversion characteristic, and a general equation is obtained for the scanning voltage. From this equation, an expression for the voltage as applied to a particular type of conversion parameter can be found for a specified conversion characteristic.

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USSR.

UDC 621.3.083.8

MEL'NIKOV, A. A., RYZHEVSKIY, A. G., TRIFONOV, YE. F., SHLYANDIN, V. M., Penza  
"Some Means of Constructing High-Speed Frequency-to-Code Converters with Simu-  
lation of the Inverse Function"

Novosibirsk, Avtometriya, No 2, 1972, pp 40-46

**Abstract:** A study was made of possible means of implementing the structures of high speed analog-to-digital frequency converters with simulation of the inverse function. The basic problem in implementing the investigated converters is development of the functional generator which in connection with its purpose is called a square-law function generator. The construction of the square law function generator from binary multipliers and binary dividers is discussed in detail. Inasmuch as the conversion result in the discussed devices is proportional to the frequency of the investigated signal and the conversion time is equal to one period of the signal, they are characterized by the properties of both digital frequency meters and period meters. Their advantages include limiting high speed characteristic of the meters and proportionality of the results of the conversion to the frequency of the investigated signal characteristic of frequency meters. The disadvantages include the presence of errors in shaping the time interval characteristic of period meters and an increase in the relative conversion error at the beginning of the range characteristic of frequency meters. The introduction of a conversion digitalization

- 72 -

USSR

MEL'NIKOV, A. A., et al., Avtometriya, No 2, 1972, pp 40-46

switch in the described devices permits the counter to contain the code result proportional to the frequency of the investigated signal with an error not exceeding the given error for the time of 1 period of the investigated signal. A model frequency to code converter was developed for the frequency range from 1 to 1,024 hertz. An error on the order of  $\pm 0.2\%$  was obtained in the indicated frequency range.

2/2

USSR

UDC 621.325.5

RYZHEVSKAYA, T. N., RYZHEVSKIY, A. G., SHAKHOV, E. K., SHLYANDIN, V. M.,  
Penza Polytechnical Institute

"A Percentage Time-Pulse Converter"

Moscow, Otkrytiva, Izobreteniya, Promyshlennye Obraztsy, Tovarnyye Znaki,  
No 5, Feb 72, Author's Certificate No 327601, Division H, filed 27 Nov 69,  
published 26 Jan 72, p 169

Translation: This Author's Certificate introduces a percentage pulse-time converter which contains a control module, voltage comparison modules, a linearly varying voltage generator, a count pulse generator, coincidence circuits, OR circuits, a frequency divider, a switch, a digital pulse counter, pulse number counters. As a distinguishing feature of the patent, conversion accuracy is improved by adding another pulse counter. The outputs of the comparison modules are connected through the coincidence circuits to the counters, whose code outputs are connected to the inputs of the coincidence circuits. The other inputs of the coincidence circuits are connected to the code outputs of the additional counter. The outputs of the coincidence circuits are connected through the OR circuits to the digital counter and to the frequency divider.

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- 44 -

USSR

UDC: 53.083.721

RYZHEVSKIY, A. G., Candidate Technical Sciences, and SHLYANDIN,  
V. M., Doctor Technical Sciences

"Generality of Frequency-Time Conversion Methods"

Moscow, Pribory i sistemy upravleniya, No. 4, 1971, pp 23-27

**Abstract:** A necessary condition for setting up a general theory of frequency-time conversion is to clarify the generality and interconnection of the various conversion methods. The purpose of the present paper is to give the results of investigations in this direction made by the Information-Measurement Techniques Department of the Penzenskiy Polytechnical Institute. This method of conversion is compared with the method of analog-digital conversion, and four possible advantages to be derived from a combination of their structures and their independence of the physical nature of the information carriers are given. Diagrams of the generalized structure and operation of frequency-time converters are given together with a discussion of the basic ideas involved. Also considered are the operation of harmonic frequency-time converters, the generalized structure of the converter with the subtraction of sweep and threshold quantities, and the phase converter with fixed operating frequency. Attention is drawn to the currently developing  
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RYZHEVSKIY, A. G., et al, Fribory i sistemy upravleniya, No. 4,  
1971, pp 23-27

structural methods for improving the accuracy of frequency-time conversion in which the error introduced by the measure of time appears in the total error of the system as a factor of less than unity. The authors express their gratitude to Candidates of Technical Science V. G. Knorring and E. K. Shakhev for their comments.

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- 53 -

USSR

Instruments and Measurements

R  
UDC 621.317.791

IVANOV, G. YE., KIRIN, YU. P., RYZHEVSKIY, A. G., RYZHEVSKAYA, T. N.,  
SHLYANDIN, V. M.

"Procedure for Measuring Passive Parameters of Electric Circuits"

Moscow, Otkrytiva, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,  
No 17, 12 May 70, p 55, Patent No 270881, Filed 11 Feb 69

Translation: This Author's certificate introduces a procedure for measuring the passive parameters of electric circuits based on investigation of the transient process in a measuring circuit containing active and reactive elements. In order to widen the measurement limits, improve the accuracy of the beginning of the measurement range and decrease the power dissipated in the investigated element, a linearly varying voltage is fed simultaneously to the measuring circuit and the resistive voltage divider. The point at which the voltages at the midpoints of the measuring circuit and the divider are equal is determined, and the time interval proportional to the measured parameter is isolated.

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AA 0044297-

Soviet Inventions Illustrated, Section II Electrical, Derwent,

R UR 0482

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243732 NUMERICAL MEASURING EQUIPMENT OF ELECTRICAL PARAMETERS in which impulse generator is associated through gating circuits with two counters one of which is connected to a code-voltage converter. The gating circuits are connected to a measuring bridge the output from which is compared with the code-voltage converter. The equipment measures sequentially electrical parameters of a component. 15.1.68 as 1210521/18-10. V. M. SHLYANDIN et al. PENZA POLYTECHNICAL (30.9.69) Bul 17/14.5.69. Class 21e. Int.Cl.G 01r.

AUTHORS: Shlyandin, V. M., Ryzhevskiy, A. G., Kirin, Yu. P.  
Penza Politekhnicheskiy Institut

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19770851

1/2 034 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--ANALYSIS OF THE BRIGHTNESS TEMPERATURE SPECTRUM AND THE STRUCTURE  
OF THE LOWER VENUSIAN ATMOSPHERE -U-  
AUTHOR--RZHIGA, O.N.

COUNTRY OF INFO--USSR

SOURCE--ASTRONOMICHESKIY ZHURNAL, VOL. 47, NO. 3, 1970, P. 566-576

DATE PUBLISHED-----70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS

TOPIC TAGS--VENUS PLANET, PLANETARY ATMOSPHERE, PRESSURE, ATMOSPHERE  
COMPOSITION, SOLAR RADIATION ABSORPTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605012/C02 STEP NO--UR/0033/70/047/003/0566/0576

CIRC ACCESSION NO--AP0140260

UNCLASSIFIED

034  
CIRC ACCESSION NO--AP0140260

UNCLASSIFIED

PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF THE COMPOSITION,  
TEMPERATURE, AND PRESSURE PROFILES OF THE VENUSIAN ATMOSPHERE ON THE  
BASIS OF AVAILABLE VENERA AND MARINER PROBE AND RADAR ECHO DATA. TWO  
MODELS OF THE VENUSIAN ATMOSPHERE ARE CONSTRUCTED, ASSUMING THAT THE  
TEMPERATURE AND PRESSURE VARY ADIABATICALLY THROUGHOUT THE ATMOSPHERE  
THICKNESS, OR THAT THEY BECOME ISOTHERMAL AT A DISTANCE OF ABOUT 10 KM  
FROM THE VENUSIAN SURFACE. AN ANALYSIS OF THE PLANET'S BRILLIANCE  
TEMPERATURE SUPPORTS THE CORRECTNESS OF THE LATTER MODEL. THE ABSENCE  
OF CIRCULATION IN THE LOWER ATMOSPHERE IS BELIEVED TO BE A NECESSARY  
CONDITION FOR THE FORMATION OF AN ISOTHERMAL SURFACE LAYER. IT IS  
THEORIZED THAT SOLAR RADIATION MAY BE PREVENTED FROM REACHING THE  
VENUSIAN SURFACE BY ABSORPTION IN HIGHER ATMOSPHERIC LAYERS.  
FACILITY: AKADEMIIA NAUK SSSR, INSTITUT RADIOTEKHNIKI I ELEKTRONIKI,  
MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 536.46:533.6

KALABUKHOV, G. V., RYZHIK, A. B., YURAMNOV, Yu. A., SIDOROV, V. M., OSIPOV,  
B. R., FAYERMAN, S. N.

"On the Effect of Reaction-Kinetic Properties of an Inflammable Flow in the  
Combustion of Aluminum Powders"

V sb. Gorenje i vzryv (Combustion and Explosion -- Collection of Works),  
Moscow, "Nauka", 1972, pp 204-206 (from RZh-Mekhanika, No 3, Mar 73, Abstract  
No 3B969)

Translation: Shock tube studies were made of the combustion of aluminum powder when detonation waves act on it. These waves differ in intensity and chemical composition. It was established that the increase in the detonation rate of the gas mixtures impedes combustion to a greater degree than the detonation temperature is lowered. The positive effect of oxygen, carbon dioxide, and small quantities of nitrogen and argon on the combustion of disperse aluminum is noted. Rarefaction of the stoichiometric mixture of hydrogen and oxygen with light gases (hydrogen and helium) leads to a decrease in the degree of combustion of the powder. 5 ref. Authors' abstract.

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- 55 -

USSR

UDC 535.235+629.7.018.1

KARPUNOV, Ye. G., NEGRUTSAK, L. M., RYZHIK, A. B., FRAYERMAN, S. I.,  
and YURMANOV, Yu. A.

"Spectroscopic Investigation of Supersonic Heterogeneous Currents  
in a Combustible Condensed Phase"

Novosibirsk, Fizika gorenija i vzryva, No 3, 1973, pp 387-391

Abstract: In connection with the problem of the combustion of metallic particles in ultrasonic currents, the authors describe investigations into the relative energy spectrum distribution in the interaction of detonation waves in stoichiometric hydrogen-air mixtures with aluminum and magnesium powder suspensions. They conducted their experiments in accordance with the method of heterochromic photometry, using a formula developed in this article for the radiating surface temperature. A description of the experimental equipment, which includes a shock tube, pressure sensors, and the ISP-51 spectrograph, is given. The tube was 7.5 m long and had an inner diameter of 100 mm, with the suspended material placed in the closed end. Results of the experiments were analyzed by comparing the experimental data with the conclusions of hydrodynamic theory.

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- 152 -

USSR

UDC: 536.46:533.6

YURMANOV, YU.A., RYZHIK, A.B., LIMONOV, B.S. and MAKHIN, V.S.  
"On Ignition of Dispersed Magnesium in Oxigen Behind the Shock Waves"

Odessa, 11-ya Vses. Konf. po Vopr. Ispareniya, Goreniya i Gaz. Dinamiki  
Dispersn. Sistem, 1972 (11-th All-Union Conference on Problems of  
Evaporation, Combustion and Gas Dynamics of Dispersion Systems, 1972),  
1972, p 58 (from Referativnyy Zhurnal-Mekhanika, 1973, Abstract No  
2B1005)

Translation: Tests were conducted with a shock tube of 7.5 m length, 100 mm  
inside diameter (length of high-pressure chamber 3 m), initial pressure of  
oxidizing gas (oxygen) 120 mm of mercury. Products of explosion of  
 $ZH_2+O_2+4He$  mixture with various initial pressures were used as propelling  
gas, particle size did not exceed 20 micrometer.

Analysis of experimental data shows that the ignition of magnesium  
particles occurs in the reflected wave and that the duration of pre-  
ignition heating depends substantially on the intensity of the impinging shock  
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USSR

YURMANOV, YU. A., et al., 11-ya Vses. Konf. po Vopr. Ispareniya, Goreniya i  
Gaz. Dinamiki Dispersn. Sistem, 1972

wave. Calculations show that heating of solid particles suspended in the gas results in considerable reduction of reflection zone temperature, therefore it should be considered as temperature of the medium where ignition takes place. The observed exponential relation between ignition lag and temperature indicates that increase of the latter may result in ignition lag becoming of the same order as the duration of explosion induction.

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USSR

UDC 629.7.036.54:536.46

YURMANOV, Yu. A., RYZHIK, A. B., LIMONOV, B. S., and MAKHIN, V. S.

"The Ignition of Dispersed Magnesium in Oxygen Behind Shock Waves"

Odessa, 11-ya Vses. Konf. po Vopr. Ispareniya, Goreniya i Gaz. Dinamiki  
Dispersn. Sistem, 1972--Sbornik (11th All-Union Conference on Problems of the  
Evaporation, Combustion, and Gas Dynamics of Dispersed Systems, 1972--Collec-  
tion of Works), 1972, p 58 (from Referativnyy Zhurnal--Aviatsionnyye i  
Raketnyye Dvigateli, No 1, 1973, Abstract No 1.34.151. Resume)

Translation: The investigation of the relationship of the ignition lag time of metal particles to temperature involved experiments with a shock tube 7.5 m long with an internal diameter of 100 mm (the length of the high-pressure chamber was 3 m) and an initial inflammable-gas pressure of 120 torr. The detonation products of a mixture of  $2\text{H}_2 + \text{O}_2 + 4\text{He}$  at various initial pressures and particle size not more than 20 microns were used as the pusher gas. From an analysis of the experimental data, it follows that the ignition of magnesium particles takes place in a reflected wave and the duration of preflame heating depends substantially upon the intensity of the incident shock wave. Calculations show that the heating of solid particles in a gas suspension leads to a considerable decrease of temperature in the 1/2

USSR

YURMANOV, Yu. A., et al., 11-ya Vses. Konf. po Vopr. Ispareniya, Goreniya i Gaz. Dinamiki Dispersn. Sistem, 1972--Sbornik, 1972, p 58

reflection zone, and in connection therewith this temperature should be regarded as the temperature of the medium, at which the ignition process develops. Within the temperature range of  $T = 2160-3490^{\circ}\text{K}$  the ignition lag time turned out to equal 1.6-0.5 milliseconds. The disclosed exponential relationship of the ignition lag time to the temperature signifies that with a temperature increase, the lag value can become of the same order of magnitude as the induction period during detonation.

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- 22 -

1/2 009 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--HYGIENIC CHARACTERIZATION OF THE FOLIATED HETINAX PRODUCTION  
TECHNOLOGY -U-  
AUTHOR--RYZHIK, L.A.

COUNTRY OF INFO--USSR

SOURCE--GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA, 1970, NR 5, PP  
12-15  
DATE PUBLISHED-----70

R

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--AIR POLLUTION, INDUSTRIAL WASTE, ACETONE, PHENOL,  
FORMALDEHYDE, AMMONIA, INDUSTRIAL HYGIENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/0452

STEP NO--UR/0391/70/000/005/0012/0015

CIRC ACCESSION NO--AP0116118

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116118

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HYGIENIC CONDITIONS OF WORK AND HEALTH STATUS OF WORKERS ENGAGED IN THE PRODUCTION OF HETINAX AND GLASS TEXTOLITE WERE STUDIED. ADVERSE FACTORS, SUCH AS POLLUTION OF ENVIRONMENTAL AIR WITH ACETONE, PHENOL, CRESOL, FORMALDEHYDE AND AMMONIA AND HIGH TEMPERATURE OF THE AIR WERE BROUGHT OUT. SOME WORKERS DEMONSTRATED FUNCTIONAL CHANGES IN THE CENTRAL NERVOUS AND CARDIOVASCULAR SYSTEMS. TO REMEDY THE SITUATION CORRESPONDING HEALTH MEASURES HAVE BEEN ELABORATED. FACILITY: INSTITUT GIGIYENY TRUDA I PROFZABOLEVANIY.

UNCLASSIFIED

Acc. Nr: AP0047363

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PRIMARY SOURCE: Vestnik Khirurgii imeni I. I. Grekova, 1970,  
Vol 104, Nr 1, pp 82-86

LATE RESULTS OF SURGICAL TREATMENT OF THE RECTAL CANCER

Ryzhikh, A.N.; Fayn, S.N.; Inoyatov, I.M.; Boguslavskiy, L.S.

In the clinic within a 12 year period 727 patients were treated. Late results of treatment were followed up in 89.1 per cent of patients. It is concluded that best results could be obtained in abdominoperitoneal extirpation of the rectum (55% of patients survived for over 5 years) and abdominal resection of the rectum with descending survival).

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REEL/FRAME

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USSR

UDC 621.385.6:621.391.822

DYACHIK, E. I.

"Noise Of Electron Flow With A Nonuniform Cross Section (Abstract Of Deposited Manuscript)"

Elektron. tekhnika. Nauchno-tekhnik. sb. Elektron. SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1970, Issue 11, pp 19-20 (from RZh-Elektronika i yeye primeneniye, No 3, March 1971, Abstract No 3A19)

Translation: The paper considers the excitation of a drifting cylindrical electron flow (EF) symmetrically located in an ideally conducting tube by the noise current and the velocity with an arbitrary correlation between them. The potential of the tube is sufficiently large so that the thermal velocity spread of the electrons is negligible. The EF is nonuniform with respect to the velocity of the electrons (because of the "sagging" of the electrostatic potential) and the current density in the cross section. Expressions are obtained for the spectral densities of the fluctuations of the kinetic potential, the density of the convection current, and the density of the complex power in such a flow. The

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USSR

PYZHIK, E. I., Elektron. tekhnika. Nauchno-tekhn. zh. Elektron.  
SVCh, 1970, Issue 11, pp 19-20

amplitude factors are determined which characterize the intensity of the various types of waves of the kinetic potential, noise current, and complex noise power in a nonuniform electron flow, taking account of the transverse distribution of the field of the moderating system. It is shown that the nonuniform distribution of the current density and velocity of the electrons with respect to the cross section of the EF leads to a change of the relationships between the space charge waves of various types excited by noise in the flow. Author's abstract.

2/2

- 67 -

K M I R O V , G . V.

JPPS 555-72  
a? 9 11/20 72  
UDC: 378.661(477.624.70.45)

EXPERIENCE OF OPERATING UNDERGRADUATE INTERNSHIPS IN MEDICAL INSTITUTES

Article by G. V. Kuchikov, T. A. Kosolapenko, Central Methodological Office for Higher Medical Education, USSR Ministry of Health, Moscow, Sovetskoye

Zdravookhraneniye, Russian, No 2, 1972, submitted 24 September 1971, pp 42-47]

The Directives of the 24th Congress of the CPSU pertaining to the five-year plan of development of the national economy (1971-1975) set forth the task of developing higher and secondary special education in accordance with the demands of science and technology, of improving the quality of training and of political ideological upbringings of future specialists.

As we know, the problem of general physicians has been enolved in the USSR. This is the prerequisite for a shift toward training specialists by the distribution of specialized medical services, and in particular by the development of Soviet public health care.

One of the measures that helps improve the quality of differentiated internships within the medical institute: pregraduation specialization for one year after graduating in the 6th year; pregraduation specialization in the main medical specialties from the medical institute, which have existed since the 1971/72 school year. Undergraduate internships in therapy, surgery, obstetrics and gynecology in all medical institutes since 1968, on the therapeutic faculty, as well as in medical faculty.

The undergraduate specialization is a very complex organizational problem, of the curriculum of therapeutic faculty in medical institutes have led to a revolution. Graduate internships are rendered more complicated also for the reason that

- 54 -

USSR

PRONIN, B. V. and RYZHIKOV, I. V.

UDC: 621.382.2

"Investigating Tunnel Puncture and Photoelectrical Characteristics  
in  $\text{Al}_x\text{Ga}_{1-x}\text{As}$  and  $\text{GaAs}_{1-x}\text{P}_x$  p-n Junctions With Inverse Biasing"  
Leningrad, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1432-  
1437

**Abstract:** This paper sets out to solve the problem of the current and photocurrent in  $\text{Al}_x\text{Ga}_{1-x}\text{As}$  and  $\text{GaAs}_{1-x}\text{P}_x$  p-n junctions as functions of the inverse voltage, and to determine the nature of electrical puncture. Estimates are also made of the diffusion length and the lifetime of the minority current carriers in the solid solutions investigated. Three types of specimens were used in these experiments: p-n junctions obtained by epitaxial growth of p- and n-layers of  $\text{Al}_x\text{Ga}_{1-x}\text{As}$ ; junctions obtained by the diffusion of zinc into n- $\text{Al}_x\text{Ga}_{1-x}\text{As}$  epitaxial films; junctions formed by the diffusion of zinc into epitaxial films of n- $\text{GaAs}_{1-x}\text{P}_x$ . A table is given of theoretical and experimental values obtained for  $\alpha$  and  $\gamma$  of  $\text{Al}_x\text{Ga}_{1-x}\text{As}$  and  $\text{GaAs}_{1-x}\text{P}_x$  p-n junctions, and it is noted that the volt-ampere characteristic measurements were conducted by 1/2

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PRONIN, B. V., et al, Fizika i tekhnika poluprovodnikov, No 8,  
1972, pp 1432-1437

the ordinary method while the photocurrent characteristics were obtained by the method of an earlier paper (J. L. Moll, et al, Sol. St. Electron., 6, 1963, p 147). The authors offer their thanks to A. S. Zhikhareva for preparing the specimens, N. M. Salomakhina for conducting the diffusion process, S. G. Vlaskina and N. A. Drozdova for the photolithography and mounting the ohmic contacts, and N. V. Shcherbakov for his assistance with the experiments.

2/2

- 109 -

USSR

UDC 535.376

BORODIN, YU.P., BORONIN, V.G., KAREV, YU.A., KRUGLOV, I.I., MIKHAYLOV, L.I.,  
PAVLOVA, V.A., PETROV, V.S., RYZHIKOV, I.V.

"Study Of The Region Of Radiative Recombination In Electroluminescent  
Structures Based On Diffusion And Epitaxial Specimens Of Gallium Arsenide"

V sb. Elektroluminatsentsiya tvord. tel. (Electroluminescence Of Solid Bodies--  
Collection Of Works), Kiev, "Nauk.dumka," 1971, pp 54-58 (from RZh-Elektronika  
iyeye primeneniye, No 11, Nov 1971, Abstract No 118263)

Translation: A comprehensive study is presented of the electrical and optical properties of the region of radiation recombination in diffused and epitaxial specimens. The distribution is obtained of the impurity in the p-region of diffused and epitaxial specimens by means of a measurement of the photoluminescent spectra. The experimentally determined transition time is: up to 1000 nanosecond with epitaxial specimens and 50 nanosec with diffused. The external quantum efficiency at  $T = 300^{\circ}$  K of the diffused and epitaxial specimens equals one percent and five percent, respectively, and for a construction with the maximum possible external quantum efficiency ~ 9 percent. 6 ill. 5 ref. Summary.

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- 53 -

Infrared Rays

USSR

UDC 535.376:621.582

GORBAN', I.S., SULEYMANOV, YU.M., SHVARDK, YU.M., PAVLICHENKO, V.I., RYZHIKOV,  
I.V.

"Infrared Electroluminescence Of Epitaxial P-N Junctions Based On Silicon  
Carbide"

V sb. Elektroluminatsiya tward. tel (Electroluminescence Of Solid Bodies...  
Collection Of Works), Kiev, "Nauk.dunka," 1971, pp 19-21 (from RZh-Elektronika  
i vye primeneniye, No 11, Nov 1971, Abstract No 115556)

Translation: The paper reports on the infrared electroluminescence spectra of epitaxial p-n junctions based on  $\text{Si}_3\text{N}_4$ -SiO (63). Of particular interest is the electroluminescence spectrum (IR-II-EL) which consists of three narrow lines 1.184, 1.175, and 1.191 ev (halfwidth on the order of 1/10 RT at 293° K) which is observed at both room temperature and at the temperature of liquid nitrogen. In addition to the structure IR-II-EL, on other light diodes the infrared bands IR-I and IR-III were observed with energy maxima at 1.35 and 1.07 ev, respectively. A scheme of electron transitions responsible for forming IR-II is proposed. 3 ref. 2 ill. Summary.

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USSR

UDC 621.382.2

ALMAZOV, A.B., KULIKOVA, YE.V., RYZHIKOV, I.V., KUZHETSOVA, YE.N., KURINNYY, V.I.

"Capacitance Of Abrupt Electron-Hole P-N Junction Allowing For Charge Of Mobile Carriers"

Elektron. tekhnika. Nauchno-tekhnik. sb. Poluprovodn. pribory (Electronic Technology. Scientific-Technical Collection. Semiconductor Devices), 1970, Issue 5(53), pp. 15-23 (from RZh-Elektronika i yeye primeneniye, No. 1, January 1971, Abstract No 1B121).

Translation: Approximations are considered which make it possible to obtain analytical expressions for the capacitance of the space charge layer, allowing for the shielding effect of the free carriers with a low level of injection during negative and small positive biases. For consideration of an abrupt p-n junction, equal doping is assumed for both regions, disregarding the compensation of the impurity atoms and the recombination of the carriers in the space charge region. The above assumption is also correct for a high level of injection, but with the condition that the voltage at the p-n junction at some  $kT/q$  is less than the contact potential difference. An experimental test was conducted on unsymmetric p-n junctions formed by ionic doping in crystals with a concentration of acceptors  $(2.5 \pm 4.0) \cdot 10^{12} \text{ cm}^{-3}$ ; the thickness of the n-region amounted to 0.6 micron, and the concentration of donors changed from  $10^{20}$  to  $10^{12} \text{ cm}^{-3}$ . 2 ill. 14 ref. V.M.

USSR

UDC 621.382.95:535.371

RYZHIKOV, I.V., BUNYAYEV, V.A., FOMENKO, G.P., VORONIN, V.G., KMITA, T.G.,  
PRONIN, B.V., KHOKHLACHEV, K.I., KRUGLOV, I.I., MIKHAYLOV, V.V., TENYAKOV, YE.I

"Voltampere And Lumenampere Characteristics Of Silicon Carbide Light Diodes With High Current Density"

V sb. III Vses. konferentsiya po poluprovodnikov. karbidy kremniya (III All-Union Conference On Semiconductors Of Silicon Carbide), 1968, Moscow, 1970, pp 116-126  
(from RZh--Elektronika i yeye primeneniiye, No 1, January 1971, Abstract No 1B301)

Translation: Light diodes were investigated, obtained by diffusion of Al and B into n-SiC (6H) at 2000° C (for 40 minutes) and by diffusion of B alone for 10 minutes. The resistivity of the source material is 0.01--0.3 ohm.cm. The circuit for measurements, the experimental results and their consideration are presented. It is established that the voltampere characteristics with a current density 1-5000 a/cm<sup>2</sup> are described by the expression  $I = AV^n$  ( $n = 1.6--1.2$ ), and the lumenampere by  $L = I^n$  ( $n = 0.55--0.7$ ). Such dependences are the consequence of a radiative and nonradiative recombination of the carriers in all the regions of the p-n-n<sup>+</sup> diode. A deviation is observed from the theory connected with the capture of majority carriers by fine centers of attachment. 7 ill. 10 ref. N.S.

1/1

- 74 -

USSR

UDC 621.383.93:621.327.9:535.376

RYZHIKOV, I.V.

"Voltlumenampere And Voltfarad Characteristics Of Nonsymmetrical p-i-n Structure Of Silicon Carbide"

Elektron. tekhnika. Nauchno-tekhnik. sb. Poluprovodn. pribory (Electronic Technology. Scientific-Technical Collection. Semiconductor Devices), 1970, Issue 3(53), pp 3-14 (from RZh-Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1B299)

Translation: The characteristics were investigated on silicon carbide light diodes, produced by diffusion of boron in material with n-type conductivity and having the structure p-i-n (or p-n-n<sup>+</sup>) with high resistance because of over-compensation of the central n-region ( $10^4$ -- $10^6$  ohm.cm). A theoretical analysis is made of the characteristics of the diode. The method of production and the basic parameters are described of the specimens investigated, which are produced on the basis of  $\alpha$ -SiC(6H) crystals with various concentrations of active diodes. It is obtained that the voltlumenampere characteristics of the diodes are found in satisfactory agreement with the diffusion theory of double injection, and the voltfarad characteristic is in conformity with Schottky's theory (allowing for the characteristics of nonsymmetric junctions). 6 ill. 28 ref.

1/1

USSR

UDC 535.376.2

ABDULAYEV, O.R., PAVLICHENKO, V.I., RYZHIKOV, I.V.

"Electroluminescence And Double Injection In Thin Silicon Carbide Structures  
Doped With Aluminum Or Boron"

V sb. Elektroluminestsentsiya tverd. tel. (Electroluminescence Of Solid Bodies--  
Collection Of Works), Kiev, "Nauk.dumka," 1971, pp 21-30 (from RZh-Elektronika  
iye primeneniye, No 11, Nov 1971, Abstract No 11B357)

Translation: The current-voltage and lumen-current characteristics are studied of p-i-n structures doped with aluminum or boron which differ in the resistivity and the extent of the separate regions. The experimentally observed exponential and power dependences of the current on the voltage are analyzed thoroughly in the limits of theories which take into account the tunneling of the carriers through the intermediate states in the band or recombination of the carriers in the layer of space charge of the p-n junction and in all regions of the p-i-n structure under conditions of a high injection level in the i-region. In the radiation spectra of the light diodes studied a shift of the maximum radiation into the shortwave region is noted as well as a contraction with the increase of temperature and current density. It is discovered that a considerable part of the blue-green and red radiation (which exceeds in intensity the yellow radiation) of SiC light diodes is created by short-duration diffusion of boron.

8 ill. 22 ref. Summary.

USSR

UDC 621.382.2.001.5

AKIMOV, Yu. S., CUSEV, V. M., KURINNYY, V. I., RYZHIKOV, I. V.

"An Investigation of the Injection Characteristics of Symmetric PIN Diodes  
Made by the Method of Ion Implantation"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 10, Oct 71, pp 1917-1926

**Abstract:** The paper presents a review of the principal drift and diffusion theories of double injection as applied to symmetric PIN structures. The width of the I-region varied over a range of  $W/L_p = 0.3-15$ . Precise knowledge of the parameters of the separate regions of  $P^+PN^+$  structures made by ionic doping of high-resistance P-silicon enabled the authors to make a detailed quantitative and qualitative comparison between the experimental characteristics and those predicted by the drift theory and chiefly by the diffusion theory of double injection. It is shown that the Hall diffusion model is inadequate for analyzing the data on PIN structures, and a detailed study is made of the Kleinman section of the current-voltage curve. Experimental data are compared with the theory with regard to nonequilibrium impurity distribution in the heavily doped layers. A drift section pre-

1/2

USSR

AKIMOV, Yu. S. et al., Radiotekhnika i Elektronika, Vol 16, No 10, Oct 71,  
pp 1917-1926

ceding the diffusion section is observed on the Rashba-Tolpygo-Lampert-Rose  
current-voltage curve for long diodes ( $W/L_p > 2$ ), and a detailed study is  
made of this section. Six figures, one table, bibliography of 34 titles.

2/2

- 145 -

USSR

UDO 621.315.593;535.376

VORCNIN, V.G., GLUKHAREV, A.A., PAVLICHENKO, V.I., PRONIN, B.Y., RYZHIKOV, I.V.,  
SULEYMANOV, YU.M.

"Effect Of Adhesion Centers On Electroluminescence In  $\text{SiC}(6\text{H})$ "

Elektron. tekhnika. Nauchno-tekhnik. ob. Poluprovodn. pribory (Electronic Technology.  
Scientific-Technical Collection. Semiconductor Devices), 1970, No 3(53), pp 24-30  
(from RZh-Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B282)

Translation: The relaxation was investigated of electroluminescence in silicon carbide p-n junctions constructed on silicon carbide (6H) crystals of a modified version of different resistivity. On the basis of the energy levels of the traps obtained (0.06-0.08; 0.13-0.14; 0.18-0.20; 0.22-0.23 e.v.) it is assumed that three levels of nitrogen emerge as adhesion centers in silicon carbide ( $\text{SiC}(6\text{H})$ ), and also one level of unknown donor, which under stable conditions in material of high resistivity is not filled by electrons. 6 ill. 26 ref. Summary.

1/1

USSR

UDC 621.382.2

ALADINSKIY, V.K., KUZNETSOVA, Ye.N., PAVLICHENKO, V.I., and RYZHIKOV, I.V.

"Tunnel Breakdown in SiC p-n Junctions"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 4, No 4, 1970, pp 708-714

**Abstract:** This paper describes experiments, which investigate the breakdown mechanism in SiC p-n junctions obtained by various technical means. Such electrical breakdowns are accompanied by electroluminescence, and research in the latter is valuable for investigating one of the new directions in semiconductor engineering, the creation and development of light diodes, i.e., instruments in which electrical energy is transformed to light energy. The p-n junctions under test were prepared by the diffusion of aluminum at temperatures of 1900-2300° C for several hours, or the diffusion of boron for several minutes at a temperature of 1920-2000° C and separate diffusion of Al followed by boron. Some of the junctions were obtained by epitaxial growth; then, the p region was doped with Al. The authors conclude by suggesting that an analysis of the spectral characteristics of recombination radiation in the breakdown of diodes of this type would be worthwhile conducting.

1/1

- 62 -

USSR

UDC 616-002.828.084

SHESTAK, A. I., KAPTSEVICH, M. A. and RYZHIKOV, M. I.

"Sanitary and Epidemic Control Measures in Foci of Deep Mycoses"

Minsk, Zdravookhraneniye Belorussii, No 2, 1973, pp 53-57

Abstract: Brief comments on the prevalence of coccidioidomycosis, histoplasmosis, blastomycosis, and similar fungus diseases, biology of the causative agents, similarity of mycoses to some other diseases, prognosis, and treatment are followed by a discussion of the steps taken to prevent mycoses from assuming epidemic proportions. These include immediate imposition of quarantine as soon as a focus is discovered, sampling of soil, water, etc. for use in laboratory determination of the pathogen, widespread application of disinfectants, and house-by-house checks to find and treat humans or animals with the disease. A chart summarizes the published data on the incubation period, mechanism of infection, site of the process, clinical symptoms, differential diagnosis of the major mycoses.

1/1

- 13 -

Public Health, Hygiene and Sanitation

USSR

BYZHNIKOV, M. L., Chief Epidemiologist of the Ministry of Public Health, BSSR, and SEMUKHA, V. I., Chairman of the Central Committee of the Society of the Red Cross BSSR

"Organization and Execution of Overall Readiness Checks of Sanitary Detachments for Work in Bacteriological Foci"

Minsk, Zdravookhraneniye Belorussii, Vol 16, No 7, Jul 70, pp 72-75

Translation: In their military plans, the aggressors assign an important place to the use of bacteriological as well as thermonuclear weapons. In recent years this has been declared frequently and in an active form in the periodical press of some capitalistic countries.

We must not ignore the expressions of a group of American scientists who once participated in a government biological warfare project concerning the fact that, in the first place, those will suffer from biological weapons who do not believe in them.

In the system of defense against bacteriological weapons, a particularly important significance lies in the readiness of the medical service to ensure the

USSR

RYZHIKOV, M. I., et al, Zdravookhraneniye Belorussii, Vol 16, No 7, Jul 70, pp 72-75

rendering of aid to the sick and the introduction of a complex of epidemiological measures regarding localization and liquidation of the site of bacterial infection.

In spite of the presence of a wide network of medical establishments in the country, it can be assumed that in massive foci of infection, caused for instance by aerosol contamination, the present strength and supplies of the medical service would be insufficient. The basic reserves of the medical service are the sanitary units, which are organized according to the civil defense plans in the national economy by the leaders of enterprises, establishments, collective farms, and higher and middle educational institutions, together with the local organizations of the Societies of the Red Cross. A 40-hour program for the theoretical and practical preparation of the sanitary units is designed for the acquisition of knowledge and skills for work at sites of mass infections.

At the bacteriological focus, the main direction of the work is inspection of the site together with the medical workers, rendering aid in the sanitary treatment of the population and decontaminating the territory, conducting special prophylaxis, finding the sick and evacuating them to sanitary stations, and performance of conclusive disinfection of quarters.

Microbiology

USSR

UDC 614.3/.4.07

RYZHIKOV, M. I., KORZENKO, V. N., and GRACHEV, YU. A., Ministry of Health  
Belorussian SSR, Republic Sanitary-Epidemiological Station, and Minsk Pedago-  
gical Institute imeni A. M. Gor'kiy

"Some Problems Concerning the Preparation of Bacteriological Laboratories  
for Detection of Bacterial Substances"

Minsk, Zdravookhraneniye Belorussii, No 1, Jan 71, pp 67-69

Translation: Bacteriological weapons, regarded as one of the most powerful means of mass infection of people, have been accepted as armament by aggressive factions of a number of capitalist states. Foreign investigators consider that the agents of especially dangerous infections such as plague, cholera, glanders, melioidosis equine encephalomyelitis, and other diseases can be utilized as bacteriological weapons. It is the opinion of foreign specialists that the infection of the earth's atmospheric layers is the most likely and effective method of bacteriological attack.

The identification of the type of agent in the least time is the basis for the implementation of a whole series of measures aimed at localizing and eliminating the developing foci.

The successful elimination of the consequences of infection depends on

1/6

USSR

RYZHIKOV, M. I., et al., Zdravookhraneniye Belorussii, No 1, Jan 71, pp 67-69

the quantity and quality of the studies conducted, and on the participation of a considerable number of laboratories in the defection work.

This is the task that confronts the rayon, municipal, and oblast sanitary epidemiological stations, the bacteriological laboratories of institutes and certain hospitals, and veterinary laboratories of practical and scientific research institute (I. I. Lazarenka, 1968). In view of the fact that the republic is not plagued by highly dangerous infections, no effort to control their agents is made at the laboratories, with the result that most of the laboratories are not equipped to work in the regime required for especially dangerous infections.

For this reason it is considered advisable to adopt beforehand some basic measures for the development of a laboratory. These measures consist of the elaboration of a plan for the development of a laboratory, with provisions for carrying out supplementary work, such as the equipping of additional isolation wards and rooms, erection of partitions and passages, and so on. In addition, reserves of necessary diagnostic preparations and other supplies must be created and facilities organized which make it possible to obtain these supplies at the needed moment. Specialists must be trained to work under pressure conditions and apply methods of investigation appropriate to the required task.

2/6

- 16 -

USSR

RYZHIKOV, M. I., et al., Zdravookhraneniye Belorussii, No 1, Jan 71, pp 67-69

General requirements for the organization of a work regimen in separate corresponding laboratories are clarified in the literature (V. N. Fedorov, 1953; P. F. Zdrodovskiy and Zhukov-Verezhnikov, 1966, and others) and there are also instruction materials on plague, cholera, and smallpox. These materials however, fail to treat the work regimen in laboratories which are engaged in complex studies, such as bacteriological and virological investigations (these are not supported by descriptions of the order and stages in which investigations are to be conducted). A summary of literary data on the organization of work at the best laboratories, and the experience accumulated by us in the matter of developing laboratories at appropriate premises permitted us to develop a number of recommendations.

In case it is necessary to launch immediate investigations (delivery of a test sample to the laboratory), a step-wise approach to the work by the different functional sections of the laboratory is advisable which ensures orderly stages in the conduct of the investigations. The premises in which the laboratory is situated are divided into two halves; the infectious and the clean. Then there are sections which make it possible to begin work with a minimum time loss; a room for the primary processing of material and preparation of the test samples for further investigation; an isolation ward  
3/6

USSR

RYZHIKOV, M. I., et al., Zdravookhraneniye Belorussii, No 1, Jan 71, pp 67-69

or room for the infection and housing of test animals; and a room to carry out express methods of investigation (boiler room). Located in the second half are the "clean" laboratory, an autoclave for infected material, dissection room, sanitary conveyer, and others. The work in these sections can be carried out by less skilled laboratory personnel working under the supervision of specialists.

The volume of work that can be accomplished at a given laboratory is based on the resources and means which are available. The volume of investigations is determined by the task assigned to the laboratory and the availability of the diagnostic preparations and equipment; at the same time separate calculations are made of the number of test samples that can be investigated by the express, accelerated, and classical methods. On the basis of these calculations, the total number of test samples which can be accepted for investigation in a single work day is determined, taking into account the possibility of grouping some of the test samples.

The completed calculations make it possible to determine the kind and quantity of supplies which should be utilized at each of the investigating stages. A list of instruments, laboratory vessels, reagents, bacterial preparations, and so on is used to provide each of these stages with the

4/6

- 17 -

USSR

RYZHIKOV, M. I., et al., Zdravookhraneniye Belorussii, No 1, Jan 71, pp 67=69  
necessary supplies. In the case of a shortage of some of these supplies or the inadvisability of storing them, the list should specify where such supplies may be obtained.

In order to expedite the conduct of investigations, a plan of work for each stage of the investigation and a general plan for the handling of the material delivered to the laboratory should be prepared, because the use of handbooks and manuals in the course of work with especially dangerous infections is difficult and takes up a great deal of time. Such plans necessary for each stage of preparation of the test samples for further investigation at the biological testing premises, pure laboratory, boiling room, and so on.

The plan for the stage in which the test samples are prepared for investigation should anticipate the preliminary processing of the material (trituration, emulsification, filtration, and so on) and its separation into parts for further special processing (centrifugation, filtration through membrane filters, heating, and so on). The plan should indicate also the separate work stages for each part of the test sample: preparation of smears, quantity, staining methods, and nutrient media to be used; it should also indicate the species and number of laboratory animals used and the methods of infection; also the type of material, the time it is examined, the kind

USSR

RYZHIKOV, M. I., et al., Zdravookhraneniye Belorussii, No 1, Jan 71, pp 67-69  
of medium used for reinoculation, and the time at which the reinoculation is  
done.

Particular attention should be given to the composition and preparation  
of nutrient media, the order of their completion, and delivery in  
accordance with the investigating plan. Brief instructions outlining the  
order at which the work is to be done should be available at all stages.

Practical work habits for each state of the investigation are being  
developed in the course of the training instructions. The completion of  
the preparations and the development of the laboratory in accordance with the  
plan and taking into consideration local characteristics will help in the  
proper organization of work at the most critical period -- the initial 1-2  
hours after receipt of the assignment to detect bacterial substances.

6/6

- 18 -

USSR

RYZHIKOV, M. I., et al, Zdravookhraneniye Belorussii, Vol 16, No 7, Jul 70, pp 72-75

During peacetime and in the absence of large outbreaks of infectious diseases, it is difficult to verify the ability of (female) sanitary unit workers to work at a focus. Determining the degree of preparedness of the sanitary units is therefore highly important, both for evaluating their readiness for practical work at the sites of infectious diseases and with the aim of further stimulating this preparedness.

At the initiative of the Central Committee Society of the Red Cross BSSR, some problems of the work of units at sites of infectious diseases were introduced into the competition program in 1967. In preparing the competitions in 1969, it was decided to organize an examination of the sanitary units under conditions as close to reality as possible. With that aim, systematic materials were devised which defined the conditions for conducting the competitions, the range of medical establishments responsible for work security, the concrete assignments to establishments concerning development of the required subunits, and the objectives upon which the examination of the knowledge of the sanitary workers will be based. The site of especially dangerous infection was established at a populated spot which was under "quarantine." Persons who had been in contact with the sick were designated by 2-3 extras. A first aid detachment set up a hospital and subunits to ensure the carrying out of work in identifying and hospitalizing the sick and 1/7

USSR

RYZHIKOV, M. I., et al, Zdravookhraneniye Belorussii, Vol 16, No 7, Jul 70, pp 72-75

administration of special prophylaxis; a mobile epidemiological detachment set up subunits for carrying out conclusive disinfection, a group for conducting an epidemiological investigation and a bacteriological laboratory. In view of the fact that it was necessary to administer the examination to several sanitary units, and in order to obtain comparable results for each stage of the examination, a list was developed of four basic elements of action (which the workers were obliged to fulfill) and 4-5 questions, of which it was recommended that no more than 2-3 be put to each section. The lists of basic actions and questions are shown in the table.

The group received penalty points for failure to carry out one of the obligatory elements of work at the station or for weak answers to the questions.

The sanitary units arriving for the examination were inspected for the presence of protective clothing and were given special prophylaxis (in practice they were given vitamins). In accordance with the problem supplied, the commander of the unit directed the group to the place of work. Two groups were directed to a subunit for conducting routine rounds, where the female sanitary workers were given

2/7

USSR

RYZHIKOV, M. I., et al, Zdravookhraneniye Belorussii, Vol 16, No 7, Jul 70, pp 72-75

changeable medical gowns and special valises, after which, accompanied by a nurse, the groups departed to conduct their rounds. Their work at the station is checked by a judge who is present there and who, at the same time, conducts the questioning. One group is directed to the quarters from which the patient had been evacuated, and performs conclusive disinfection, using the disinfecting materials which are available there.

The fourth group was directed to the PPEO where, according to the task assigned by the judge, it prepared the working solutions of disinfectants and delivered them to the group performing conclusive disinfection. The last group works with the assistant epidemiologist of the PPEO on epidemiological inspection of the site, carries out collections, transports the samples, etc.

The mid-level medical workers with whom the groups work set before them only the general problem of work at the station. Evaluation of the work and the questioning are done by a judge-physician separately at each station. The senior judge for the "site" collects information from the judges at the stations, summarizes it, and informs the group of the errors they made and the penalty points awarded for them.

3/7

USSR

RYZHIKOV, M. I., et al, Zdravookhraneniye Belorussii, Vol 16, No 7, Jul 70, pp 72-75

The experience of the exercises conducted shows that, regardless of the complexity of the setting in which the units had to work and the brief periods (about 20 minutes), it is possible to verify rather rapidly their preparedness and training for work in the basic directions of sanitary epidemiological work at the site of infectious diseases.

At the present time there are no other elaborations on the carrying out of overall verification of work at a site of infectious diseases. The method described can be recommended for use in regional, urban, and district competitions of sanitary units.

4/7

USSR

RYZHIKOV, M. I., et al, Zdravookhraneniye Belorussii, Vol 16, No 7, Jul 70, pp 72-75

Conducting Routine Rounds	Disinfection of Living Quarters	Preparation of disinfecting Solutions	Conducting Epidemic Intelligence
Actions of Unit Workers			
Obtaining the list of residents	Distribution of work responsibilities at the site	Use of chlorine, lysol, chloramine	Preparation of storage for gathering of samples
Interrogation to reveal the sick person	Correct entry into the site	Upon receiving the command: measure the necessary quantity of water and disinfectant	Gathering of samples (as indicated by the medical worker)
Isolation of the sick person on the spot	Bedding packaging	In the prescribed order, prepare the solution	Packing (sealing) of specimens, disinfection of vessels

5/7

USSR

RYZHIKOV, M. I., et al, Zdravookhraneniye Belorussii, Vol 16, No 7, Jul 70, pp 72-75

Temperature readings for contacts	Treating the location with disinfectant	Safeguard transportation of solution to the place of disinfection	Registration of direction
Special prophylaxis of contacts	Disinfection of bags with belongings and their removal		Transport of sample to laboratory
Report to OPM	Disinfection of plates and dishes		
Routine disinfection			

6/7

USSR

RIZHIKOV, M. I., et al, Zdravookhraneniye Belorussii, Vol 16, No 7, Jul 70, pp 72-73

Controlling Questions

Most characteristic symptoms of acute infectious diseases	What is conclusive disinfection	Basic disinfectants for dwellings	Understanding of microbes, their role in causing disease
Symptoms of cholera, plague, smallpox	Cost norms in disinfecting a dwelling	Basic properties of chlorine, preparations, chloramine, lysol, DTSGK	Signs of the presence of bacterial substances on the site
Special prophylaxis of infectious diseases	Physical methods of disinfection at a site	Working concentrations of disinfectants	Collecting of samples for storage of specimens of external medium
How routine disinfection is performed	Arrangement of automation, hydraulic hose	What is prophylactic disinfection	Rules for collecting specimens of infectious material
Measures of personal protection at the site		Arrangement of hydraulic hose	

7/7

Acc. Nr.

AP0053759

- Abstracting Service:  
CHEMICAL ABST.

Ref. Code  
*ER* UR 0368

- 112003w Ir-absorption spectra and interaction of isoprene with a modified Aerosil surface. Nelson, K. V.; Ikonitskii, I. V.; Ryzhikov, V. A. (USSR). *Zh. Prikl. Spektrosk.* 1970, 12(1), 80-4 (RUSS). The effects of the reaction between Aerosil (I) and TiCl<sub>4</sub> on the structural changes occurring in isoprene (II) during adsorption were studied by means of a spectrophotometer IR-10 at 2000-3750 cm<sup>-1</sup>. Adsorption of TiCl<sub>4</sub> on I brought about the formation of reactive sites on which chemisorption of II took place. TiCl<sub>4</sub>-modified I surface initiated the polymn. of II to give a nearly linear polyisoprene. On the other hand, adsorption of II vapors on a nonmodified I surface involved only a negligible interaction with the OH groups of I. CKJR

YI

REEL/FRAME  
19830822

7CB

1/2 021

UNCLASSIFIED

PROCESSING DATE--04DEC70  
TITLE--TUNNEL BREAKDOWN IN SILICON CARBIDE PN JUNCTIONS -U-

AUTHOR--(04)-ALADINSKIY, V.K., KUZNETSOVA, YE.N., PAVLICHENKO, V.I.,  
~~RYZHIKOV, V.I.~~  
COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(4), 708-14

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PN JUNCTION, SILICON CARBIDE, SINGLE CRYSTAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/0183

STEP NO--UR/0449/70/004/004/0708/0714

CIRC ACCESSION NO--AP0127804

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0127804

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PN JUNCTIONS IN SIC SINGLE CRYSTALS WITH N CONCN. OF 6 TIMES 10 PRIME17 TO 10 PRIME19-CM PRIME3 WERE PREPD. BY: (I) AL DIFFUSION AT 1900-2300DEGREES DURING SEVERAL MIN, (II) B DIFFUSION AT 1920-2000DEGREES DURING SEVERAL MIN, OR (III) EPITAXIAL GROWTH WITH THE P REGION DOPED WITH AL. THE STATISTICAL CHARACTERISTICS AND THE DIFFERENTIAL RESISTANCE, AS WELL AS THEIR TEMP. DEPENDENCES, WERE MEASURED. THE CAPACITANCE VOLTAGE RELATIONS WERE PLOTTED AND THE SPACE CHARGE LAYER THICKNESS (10 PRIME NEGATIVE6-10 STEEP ENOUGH, SO THAT THE VOLTAGE AT C.D. EQUALS 1-5 MA-CM PRIME2 WAS ARBITRARILY CHOSEN AS THE BREAKDOWN VOLTAGE, WHICH VARIED FROM 10 TO 40 V, CORRESPONDING TO A FIELD OF 5 TIMES 10 PRIME6 V-CM. THE IMPURITY DISTRIBUTION IN THE DIODES IS CLOSE TO THE ABRUPT OR TO THE LINEAR PN JUNCTION. THE LATTER ARE RESPONSIBLE FOR THE TUNNEL MECHANISM OF ELEC. NEG. AND IS LARGER THAN EXPECTED FROM THERMAL EXPANSION CONSIDERATIONS. THE TEMP. INDEPENDENCE OF BETA IMPLIES A CONSIDERABLE CONTRIBUTION OF EXPANSION TO THE TEMP. DEPENDENCE OF THE TUNNEL EFFECT. THE TUNNEL TRANSITIONS ARE CONSIDERED AS INDIRECT AND AS OCCURRING BY A PHONON MECHANISM. THE FIELD (E) DEPENDENCE OF THE BREAKDOWN CURRENT (I) WAS STUDIED, AND A RELATION LOG I SIMILAR TO ROOT BAR E HAS DERIVED. IT WAS VALID IN A WIDE RANGE OF I. THE PREDOMINANT TYPE OF BREAKDOWN IS PROPOSED.

UNCLASSIFIED

RYZHKOV,

V. M.

**QUANTUM MAGNETOMETER WITHOUT ORIENTATION SKIP ZONES**  
UDC 550.82.08

[Article by V. M. Ryzhkov and Yu. S. Salyov, *Vestn. Leningrad. Univ. Ser. Fiz. Mat. Nauk*, No. 16, 1971, pp. 14-19]

In a known quantum magnetometer circuit [Bell, Bloom, 1961] for excitation of an atomic system magnetization precession, pumping light intensity modulation is used in the gas cell, at a frequency close to the precession frequency of the working substance atoms to the ratio of the magnetic field  $H_0$  to the external magnetic field  $H$  ( $\gamma$  is the gyromagnetic ratio). In this case the largest magnetization is obtained in the direction of the external magnetic field. In this case the direction of the external magnetic field and the direction of the magnetization are perpendicular. The block diagram of the magnetometer of a self-oscillating type is indicated in FIG. 1.

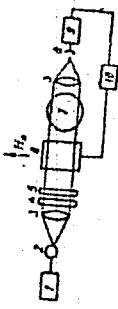


FIG. 1. Block Diagram of a Magnetometer of the Self-Oscillating Type, Using Intensity Modulation of Pumping Light. j -- lens

A circularly polarized (after passing through the spectral input 2, quarter-wave plate 4, and polarizer 5) resonance light is excited by high-frequency light from the modulator 6 at frequency  $\omega$  in the gas cell 7, and this is then detected by photodetector 9. The magnetometer is self-oscillating.

REFERENCES

- 15 -

TPRS 56099  
25 May 72

KYZHKOV, V. M.

UDC 530.8J.002.56  
SPIN PRECESSION EXCITATION BY MEANS OF PHASE MODULATION OF PUMPING LIGHT

[Article by V. N. Ryzhkov and L. A. Gerzhik; *Leningrad, Sov. fiz. chesnaya literatura, Moscow, No. 42, 1971, pp. 28-32]*

In their paper about the excitation of the atomic system of an unattenuated pump during its pumping (vapors of alkali metal) vector coordinate whose intend was modulation with a circularly polarized light (He and others),

It may be shown that a stationary magnetizing condition of the pumping upon the changing of the polarizing process is known. Light, when pumping, magnetizes an atomic system either clockwise or left-hand circularly. As it direction of its propagation or against it.

At a certain time to, let a circularly polarized light (for example in the right-hand direction) pass through a coil with the simple a small magnetic field  $H_0$ , proportional to the direction perpendicular to the direction of propagation immediately to the light intensity. This magnetization around the field begins to process, with a frequency  $\omega_0 = \frac{1}{\tau} \ln \frac{H_0}{H_0}$ , added vectorially to a plane perpendicular to  $H_0$ , and  $\tau$  is the light polarization moments of time. We shall vary the state of time an magnetization in such a manner as, at time  $t = n/\tau_0$  (either linearly or left-hand orientation), to have the right-hand circularly polarized light does not produce magnetization. Since

opposite that of right-hand polarized light, then in

SPR 5 56099  
25 May 72

USSR

UDC 621.315.592:546.28

RYZHIKOV, YU.T., NIKOLAYEVA, L.G.

"Electron Microscope Investigation Of Radiation Disturbances In Silicon Irradiated By Fast Neutrons"

V sb. Radiatsion. fiz. nemet. kristalloy (Radiation Physics Of Nonmetal Crystals--Collection Of Works), Minsk, Nauka i tekhn., 1970, pp 53-56 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1B71)

Translation: The data are presented of an electron microscope investigation of the microstructure of irradiated Si. The results are discussed on the basis of theories current in this field. 2 ill. 11 ref. Summary.

1/1

- 88 -

"APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R002202720018-7

014  
TITLE--EFFECT OF LIMING ON THE RATE OF STRONTIUM-90 DIFFUSION IN SOIL -U-  
UNCLASSIFIED PROCESSING DATE--300CT70

AUTHOR--(03)-PROKHOROV, V.M., FRID, A.S., RYZHINSKIY, M.V.

COUNTRY OF INFO--USSR

SOURCE--AGROKhimiya 1970, (2), 40-8

DATE PUBLISHED--70

R

SUBJECT AREAS--AGRICULTURE, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--SOIL CHEMISTRY, STRONTIUM ISOTOPE, ADSORPTION, CALCIUM OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/0496

CIRC ACCESSION NO--AP0128065

STEP NO--UR/0485/70/000/002/0040/0048

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R002202720018-7"

272 014

CIRC ACCESSION NO--AP0128065

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0-

0.04 TO 0.7 GR FROM 4 TO 70-80PERCENT, BASED ON THE HYDROLYTIC ACIDITY, THE RATE OF PRIME90 SK DIFFUSION DECREASES BUT ON FURTHER INCREASING THE DOSES TO 90-100PERCENT DIFFUSION AGAIN IS ENHANCED; 3 FACTORS SERVE AS AN EXPLANATION: (1) CHANGE OF THE CATION COMPN. OF THE ABSORPTIVE COMPLEX AND OF THE SOIL SOLN., (2) CHANGE OF DIFFUSION RATE OF THE ABSORBED IGNS, AND (3) INCREASE OF THE CONCN. OF THE SOIL SOLN.

FACILITY: AGROFIZ. NAUCH.-ISSLED. INST., LENINGRAD, USSR.

UNCLASSIFIED

USSR

MALOV, A. D. and RYZHIY, V. I.

UDC: None

"Photoconductivity of Semiconductors in Strong Magnetic Fields"  
Leningrad, Fizika Tverdogo Tela, vol 14, No 7, 1972, pp 2048-2052

**Abstract:** An investigation is made of the dynamic action of uhf radiation on the transverse static conductivity of nondegenerate semiconductors in strong magnetic fields. It has been shown that the heating of electrons by the uhf field in a nondegenerate electron gas with no magnetic field contributes more to the photoconductivity of the gas than the dynamic action. The authors find that the same situation is true for a similar gas in a strong magnetic field. As was shown in an earlier paper by the last-named of the authors above in the same journal (14, 1972, p 35), several effects occur independently of carrier current heating in nondegenerate semiconductors in a strong magnetic field. Two such effects are discussed in this paper: the polarization selectivity of the photoconductivity, and the photoconductivity oscillations with a change in frequency of the uhf wave or of the magnetic field. The authors express their gratitude to A. D. Gladun for his comments; they are connected with the Moscow Physicotechnical Institute.

1/1

I/2 030

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--FUSED OHMIC CONTACT FOR ZINC SELENIDE -U-

AUTHOR-(03)-DUBENSKIY, K.K., RUMYANTSEVA, A.V., RYZHKIN, YU.S.

CCOUNTRY OF INFO--USSR

SOURCE--PRIB. TEKH. EKSP. 1970, 1, 227-8

DATE PUBLISHED----70

R

SUBJECT AREAS--MATERIALS

TOPIC TAGS--SINGLE CRYSTAL, GRAPHITE, ELECTRIC CONDUCTIVITY, ZINC SELENIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/171

CIRC ACCESSION NO--AP0115540

UNCLASSIFIED

STEP NO--UR/0120/70/001/000/0227/0228

2/2 030

CIRC ACCESSION NO--AP0115540  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--20NOV70

ABSTRACT. A METHOD IS DESCRIBED FOR OBTAINING AN OHMIC CONTACT TO ZNSE BY ALLOYING IN INTO THE SINGLE CRYSTAL PLATELET OF ZNSE. THE ZNSE, AFTER POLISHING, IS ETCHED IN A FRESHLY PREPD. HCT SCLN. OF 6 PARTS K SUB2 CR SUB2 O SUB4 PLUS 4 PARTS H SUB2 SG SUB4 WITH SUBSEQUENT WASHING IN 25PERCENT NAOH. THE ALLOYING TIME (40-60 SEC) IS DETERMINEED BY THE TIME NEEDED TO HEAT THE GRAPHITE COAT FROM 300 TO 540DEGREES AND TO COOL IT TO 300DEGREES. ALLOYING HAS DONE IN H. THE TOTAL RESISTANCE OF THE CONTACT IS APPROXIMATELY EQUAL TO 10 PRIME NEGATIVE2 OHM-CM PRIME2.

UNCLASSIFIED

USSR

NAMAZOV, S.A., RYZHEINA, T.YE.

UDC 621.391.2

"Statistical Characteristics Of Pulse And Monochromatic Signals Reflected  
Obliquely From The Ionosphere"

Radiotekhnika i elektronika, Vol XVII, No 5, May 1972, pp 932-937

Abstract: The results are presented of an experimental study of the fluctuations of a pulse short-wave signal ( $\sim 10$  microsecond duration) and a monochromatic signal. The experiments were conducted in July 1968 during the day and evening at a 400-km long track. In order to compare the fluctuations of monochromatic and pulse signals, a monochromatic signal was radiated during the first 50 minutes of each hour of the experiment, and in the second 30 minutes a frequency-modulated signal on the same medium frequency. A shift of the operating frequency took place at hourly intervals. For the most part the work was conducted at frequencies of 3.5, 5.0, 6.3, and 7.0 MHz. The functions are considered of the autocorrelation of the amplitude and phase of the signals, their probability distribution and the correlation dependence of the fluctuation of the amplitude permitted in the time of the pulses (signals reflected from various layers, magnetic components and individual signals in the diffusive group during reflection from the  $F_2$  layer). During analysis of the experimental data, particular attention was given to a study of the fluctuations of the amplitude. In the

1/2

- 113 -

USSR

NAMAZOV, S.A. et al, Radiotekhnika i elektronika, Vol XVII, No 5, May 1972, pp  
932-937

analysis of the phase fluctuations only a qualitative comparison was made of the functions of autocorrelation and a histogram with the corresponding data for the amplitude. The function of autocorrelation and the depth of amplitude of fading, the distribution function of the amplitude and phase of the signal, and the function of cross-correlation are considered. The authors thank V.A. Zyatitskom for composition of the program and conducting calculations on the "Mir" electronic computer. 5 fig. 6 ref. Received by editors, 29 March 1970.

2/2

USSR

## Antibiotics

UDC 576.851.45.098.31

MISHAN'KIN, B. N., RYZHKO, I. V., and GRIGOR'YAN, E. G.

"Study of Penicillinase Activity in Microbes of Plague, Pseudotuberculosis, and Pasteurella X"

Moscow, Antibiotiki, No 7, 1973, Vol 18, pp 621-624

**Abstract:** For almost 20 years the fact that the plague microbe has a high sensitivity to benzylpenicillin in vitro but yet this antibiotic is ineffective in curing plague has needed explanation. It may be assumed that the primary reason for this is that the enzyme system of the microbe or of the animal tissue has characteristics which neutralize the activity of the penicillin. White mice were used in an attempt to determine the penicillin activity of the plague microbe in vitro and in vivo; the investigation was also made for the closely-related microbes of pseudotuberculosis and Pasteurella X. Of the three species, only Pasteurella X possessed penicillinase activity closely associated with the resistance to penicillin. Attempts to induce in vivo penicillinase activity in the plague microbe strain EV were not successful. It may be assumed that the reason the penicillin is not effective in treating experimental plague in mice is related to acylase in either the microbe or in the macroorganism.

1/1

011  
TITLE--UNIFICATION AND UNITIZATION OF ASPHALT MIXING PLANTS AT KREHENCHUG  
ROADBUILDING MACHINERY FACTORY -U-  
UNCLASSIFIED  
PROCESSING DATE--23OCT71  
AUTHOR--RYZHKO, L.S.

COUNTRY OF INFO--USSR

SOURCE--STANDARD I KACHESTVO, 1970, NR 5, PP 54-57

DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS  
TOPIC TAGS--ASPHALT EQUIPMENT, HIGHWAY CONSTRUCTION, ENGINEERING  
MACHINERY, TECHNICAL STANDARD, CONCRETE, INDUSTRIAL PLANT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1554

CIRC ACCESSION NO--AP0120333

STEP NO--UR/0422/70/000/005/0054/0057

UNCLASSIFIED

442  
011

CIRC ACCESSION NO--APO120333  
ABSTRACT/EXTRACT--(U) GP-0- UNCLASSIFIED  
ABSTRACT. THE ARTICLE DISCUSSES UNIFICATION  
AND UNITIZATION OF PLANTS FOR PREPARATION OF ASPHALT CONCRETE AND  
BITUMEN MINERAL MIXTURES. THE PLANTS HAVE BEEN DESIGNED BY THE  
SPECIALIZED DESIGN OFFICE FOR ROADBUILDING MACHINERY (SKB DORMASH) AND  
ADOPTED FOR PRODUCTION BY THE KREMENCHUG ROADBUILDING MACHINERY FACTORY  
CONSIDERATION IS GIVEN TO THE INTERRELATIONS OF UNITIZATION AND  
INTERCHANGEABILITY AND TO THE WAYS AND MEANS OF UNIFICATION THAT WERE  
FUNDAMENTAL FOR THE DESIGN OFFICE AND THE FACTORY IN THE DESIGNING AND  
FINALIZATION OF THE EQUIPMENT OF ASPHALT AND CONCRETE PLANTS.

PROCESSING DATE--23OCT77

UNCLASSIFIED

USSR

UDC 632.95

RYZHKOVA,  
L. A.

GEYD, YU. P., BABIN, YE. P., SVIRIDENKO, A. S., CHEKAVSKAYA,

"Analysis of 2-Methoxy-3,6-dichlorobenzoic Acid by Gas-Liquid Chromatography"  
Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov i profilakt. zagryaz-  
neniya imi produktov pitaniya, kormov i vnesh. sredy (Works of the Second All-Union Conference on the Investigation of Pesticide Residues and Preventive  
Contamination of Food Products, Fodder and Environment), Tallin, 1971, pp 116-  
119 (from RZh-Khimika, No 12, Jun 72, Abstract No 12N504)

Translation: For extraction of 2-MeO-3,6-C<sub>12</sub>C<sub>6</sub>H<sub>2</sub>COOM (I) from an aqueous solu-  
tion, 1 ml of dilute H<sub>2</sub>SO<sub>4</sub> (1:1) is added to 100 ml of sample, it is agi-  
tated for 5 minutes, and extracted with 100 ml of ether. For extraction of  
the compound from the soil, 50 ml of ether and 1 ml of H<sub>2</sub>SO<sub>4</sub> (1:1) are added to  
50 grams, it is agitated for 5 minutes and filtered. By a mixture of ether and  
H<sub>2</sub>SO<sub>4</sub>, the I is extracted from the plant mass. The extracts are dried over  
Na<sub>2</sub>SO<sub>4</sub>, they are concentrated to a volume of 3-5 ml, methylated with a solution  
of CH<sub>2</sub>N<sub>2</sub> in ether (15 minutes) and evaporated. The residue is analyzed on a  
chromatograph with a flame-ionization detector in a column with TND-TS-M of a  
1/2

USSR

RYZHKOVA, A. A., et al., Tr. 2-go Vses. soveshch. po issled. cstatkov pesti-  
tsidov i profilakt. zaeryazneniya imi produktov pitaniya, kormov i vnesh.  
sredy, Tallin, 1971, pp 116-119

0.17-0.18 mm fraction treated with a 4% liquid phase PMFS-4 or SKFT. For the  
calculation, the internal standard method was used for which  $2,4\text{-Cl}_2\text{C}_6\text{H}_3\text{COOMe}$   
was applied. The sensitivity of the method was 0.4-1.5 mg/kg.

2/2

- 51 -

"APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R002202720018-7

-U IMPROVED TECHNOLOGY IS THE BASIS OF PROGRESS IN FOUNDRY PRODUCTION  
AUTHOR--RYZHKOVA, A.A.

COUNTRY OF INFO--USSR

SOURCE--LITEINDE PROIZV., MAR. 1970 (3), 1-6

DATE PUBLISHED---MAR70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR  
TOPIC TAGS--ALUMINUM ALLOY, BRONZE, CAST IRON, FOUNDRY EQUIPMENT, METAL  
CASTING, STEEL, ALUMINUM, REFRACTORY METAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1935

CIRC. ACCESSION NO--AP0132197

UNCLASSIFIED

STEP NO--UR/0128/70/000/003/0001/0006

APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R002202720018-7"

U26  
CIRC ACCESSION NO--AP0132197  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT. RECENT DEVELOPMENTS IN CASTING ARE  
DESCRIBED AND ILLUSTRATED, VIZ.: "SUSPENSION" POURING TECHNIQUE FOR  
MICROCOOLING BY ADDITION OF METAL POWDER PARTICLES TO MOLTEN METAL  
DURING POURING INTO THE MOLD; ECONOMICAL PRODUCTION OF THIN WALL METAL  
MOULDS BY PLACING FLUID MOULDING SAND MIXTURES BETWEEN THE MOULD AND THE  
PATTERN; DESIGN OF EASILY DETACHABLE RISERS FOR STEEL CASTINGS;  
DEGASSING OF METALS (THERMODYNAMIC ANALYSIS); LOW PRESSURE CASTING OF AL  
ALLOYS; ELIMINATION OF COLD LAP AND COLD SHOT ON CENTRIFUGAL CASTING;  
DIRECTIONAL CRYSTALLIZATION OF ALLOYA; ELIMINATION OF SHRINKAGE DEFECTS  
IN CASTINGS OF SPHEROIDAL CAST IRON (REDUCTION OF PRE SHRINKAGE  
EXPANSION AND USE OF LAMELLAR CAST IRON IN THICKER SECTIONS OF  
COMPONENTS); PRESSURE DIE CASTING (ELIMINATION OF GAS POROSITY THROUGH  
REPLACEMENT OF THE AIR WITH O<sub>2</sub> IN AL ALLOY CASTING MOULDS); CASTING OF  
REFRACTORY ALLOYS (BRONZES, CAST IRONS, STEELS, ETC.).

UNCLASSIFIED

UDC 632.95

RASKIN, M. S., USKVA, L. A., SVIRIDENKO, A. S., RYZHKOV, A. A., BABIN, YE. P.  
"Analysis of 2-Methoxy-3,6-dichlorobenzoic Acid in Plant Mass by a Combined  
Method"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov i profilakt. zagryaz-  
neniya imi produktov pitaniya, kormov i vnesh. sredy (Works of the Second All-  
Union Conference on the Investigation of Pesticide Residues and Preventive  
Contamination of Food Products, Fodder and Environment), Tallin, 1971,  
pp 363-365 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12N503)

Translation: The herbicide is extracted from the plant mass, the dry extract  
is dissolved in a mixture of 75% alcohol with dioxane (4:1); it is applied to  
the first entire bean leaves at the time of development of the first trefoil  
(50 microliters/plant); the plants are gathered 5-6 days after treatment con-  
sidering the weight of the dry mass of the trefoil.

1/1

USSR

UDC: 621.373.42.029.64

RYZHKOV, A. Ye.

"Frequency 'Locking' of a Triode Self-Excited Microwave Oscillator Operating in the High-Amplitude Mode"

Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR (Works of Educational Institutes of Communications. Ministry of Communications of the USSR), 1970, vyp. 49, pp 37-46 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1D352)

Translation: The author considers modes of frequency locking of a triode self-excited microwave oscillator for cases where drift phenomena in the tube have an appreciable effect on circuit operation. Strict methods of analysis are used to find periodic solutions of the system and the boundaries of bands of stable oscillations. The results are compared with the characteristics of the locking mode of systems of this type where drift phenomena were disregarded. Four illustrations, bibliography of five titles.  
Résumé.

1/1

- 106 -

USSR

UDC 621.791.72

BASHKATOV, A. V., RYZHKOV, F. N., GLOTOV, V. S., GOL'TSOVA, V. P.

"Features of Welding of OT4 Titanium Alloy by an Oscillating Electron Beam"

Kiev, Avtomaticheskaya Svarka, No 11, Nov 72, pp 68-69

**Abstract:** The Voronezh Polytechnic Institute has studied the possibility of improving seam characteristics in OT4 alloy by the use of an oscillating electron beam. Studies were performed using specimens 2, 4 and 6 mm thick. Beam oscillation was varied between 5 and 2,000 Hz, both along and across the seam. Beam oscillation amplitudes reached 7.5 mm for longitudinal oscillation, 2.0 mm for transverse oscillation. Transverse oscillation causes grain size to equalize over the cross section of the seam, while longitudinal oscillation also reduces grain size. Longitudinal saw tooth oscillations are most effective in reducing grain size. Different welding speeds correspond to different optimal oscillation frequencies. Increased oscillating amplitude results in finer grain size, but the oscillating amplitude must be limited to a value dependent on welding rate: welding rates of 15, 25 and 35 m/hr correspond to optimal longitudinal saw tooth oscillation amplitudes of 4, 3 and 2 mm.

1/1

- 59 -

USSR

BASKAKOV, I. V., VOROB'YEV, N. V., RYZHKOV, G. I.

UDC: 621.375.4

"On the Problem of Matching a Photodiode and Semiconductor Amplifier to  
Maximize the Signal-to-Noise Ratio"

Tr. Mosk. vyssh. tekhn. uch-shcha im. N. E. Baumana (Works of the Moscow  
Higher Technical Academy imeni N. E. Bauman), 1972, No 150, pp 52-56 (from  
RZh-Radiotekhnika, No 12, Dec 72, abstract No 12D93 by G. S.)

Translation: Radiant energy receivers and transistorized amplifiers are used in many high-frequency receiver devices in automation. The problem of matching a radiant energy receiver and amplifier is fairly complicated in the case of the range of amplitudes of radiant fluxes which are fed to the radiant energy receiver, and reception of small useful signals against a background of appreciable constant flux. An expression for signal-to-noise ratio is derived on the basis of which optimum matching of the photodiode with the amplifier is possible. As an example, the authors propose realizations of the input stages of a reception device for a pulse signal in the optical band. Three illustrations, bibliography of two titles.

1/1

AAC 049394-

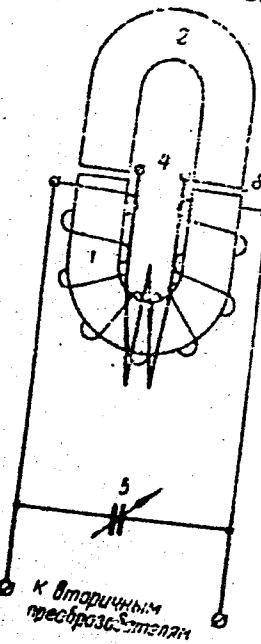
Soviet Inventions

RYZHKOV, G.P.

UR 0482

2-70

Illustrated, Section II Electrical, Derwent,  
 241543 TEST SET FOR MAGNETIC CORES, comprising  
 an electromagnet (1) with two windings linked  
 through an air gap with test sample (2). The test  
 winding is bridged by a compensating capacitor  
 introduced by the air gap and the test winding.  
 17.1.68 as 1211863/18-10.M.A. BABIKOV et al (1.9.69)  
 Bul 14/18.4.69. Class 21e. Int.CI.G olr.

K вторичным  
представлениям

AUTHORS: BABIKOV, M.A.; Seleznev, Yu.V.;  
 Maslov, Yu.N.: ~~РДС~~

19801225

18

USSR

EQUIPMENT  
Gyroscopic

UDC 531.383

PAVLOVSKIY, M. A. and RYZHKOV, L. M., Kiev Polytechnical Institute

"The Influence of Clearances Upon the Behavior of a Gyroscope During Vibration  
of the Base"

Kiev, Prikladnaya Mekhanika, Vol 9, No 7, Jul 73, pp 66-73

**Abstract:** An evaluation is made of the influence of clearances in the mounts of the inner frame upon gyroscope drift in the case of arbitrary harmonic vibration of the base in a horizontal plane, with account taken of finite rigidities of the structural elements. It is assumed that the rigidity values are high, and that the frequencies of the natural oscillations considerably exceed the vibration frequency. It is shown that the influence of the clearances and that of pliancy of the structure tend to compensate one another. At a specific combination of parameters, the presence of clearances and pliancy of the structure will not bring about gyroscope drift. A comparative evaluation is made of the disturbing moments around the axis of rotation of the outer gimbal for elliptical and linear vibration of the base.

From the analysis, the conclusion is drawn that the influence of clearances in the mounts upon gyroscope drift during vibrations of the base can be decreased in the following ways: a) decreasing the axial and radial clearances  
1/2

USSR

PAVLOVSKIY, M. A. and RYZHKOV, L. M., *Prikladnaya Mekhanika*, Vol 9, No 7,  
Jul 73, pp 66-73

in the mounts; b) application of the principle of equal structural rigidity,  
and provision of the relationship between the axial clearance and the radial  
clearance in accordance with the formulas provided for reducing the disturbing  
moment to zero for the cases of elliptical or linear vibration of the base;  
c) decreasing the amplitude of vibratory acceleration acting upon the gyroscope;  
autocompensation of the disturbing moments. 4 figures, 1 table. 2 references.

2/2

- 125 -

USSR

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RYZHKOV, M. V.

UDC 621.397

"Compression of the Spectrum of Video Signal Frequencies During Digital Transmission of Color Images for Polygraphic Printing"

Materialy nauchno-tekhn. konferentsii. Leningr. elektrotekhn. in-t svyazi.  
Vyp. 3 (Materials of the Scientific and Technical Conference of Leningrad  
Electrotechnical Communications Institute. Vyp. 3), Leningrad, 1970, pp  
69-73 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8G240)

Translation: This article contains an investigation of methods of compressing  
the frequency spectrum of a video signal during digital transmission of images.  
The possibilities of compressing the frequency spectrum of a video signal during  
transmission of stationary color images for polygraphic printing are investigated.

1/1

264

"APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R002202720018-7

016  
TITLE--RADIO OBSERVATIONS OF SOME DETAILS IN THE H I LOCAL SPIRAL ARM -U-  
UNCLASSIFIED PROCESSING DATE--04DEC70  
UTHOR-(05)-BYSTROVA, N.V., GOSSACHINSKIY, J.V., TGORDVA, T.H., ROZANOV,  
V.M., RYZHKOV, N.F.  
COUNTRY OF INFO--USSR, SWITZERLAND  
OURCE--THE SPIRAL STRUCTURE OF OUR GALAXY; PROCEEDINGS OF THE SYMPOSIUM,  
UNIVERSITAT BASEL, BASEL, SWITZERLAND, AUGUST 29-SEPTEMBER 4, 1969.  
ATE PUBLISHED-----70

BJECT AREAS--NAVIGATION, ASTRONOMY, ASTROPHYSICS  
OPIC TAGS--RADIO TELESCOPE, SPIRAL GALAXY

ONTROL MARKING--NO RESTRICTIONS

OCUMENT CLASS--UNCLASSIFIED

ROXY FICHE NO----FD70/605030/F03 STEP NO--CZ/0000/70/000/038/0169/0172

IRC ACCESSION NO--AT0141875

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R002202720018-7"

016

IRC  
ACCESSION NO--AT0141875  
ABSTRACT>EXTRACT--(U) GP-0-  
SOME DETAILS IN THE H I LOCAL SPIRAL ARM MADE WITH THE LARGE PULKOV  
RADIOTELESCOPE (BEAMWIDTH 7 MIN, BANDWIDTH 20, AND 10KHZ). DRIFT CURVES  
ACROSS THE CLUSTER NGC 2264 AT DIFFERENT VELOCITIES RELATIVE TO THE LSR  
ARE PRESENTED, AS WELL AS OBSERVED DRIFT CURVES AT DIFFERENT VELOCITIES  
ACROSS LAMBDA ORIONIS.  
FACILITY: GLAVNAIA ASTRONOMICHESKAIA,  
OBSERVATORIYA, PULKOVO, USSR.

UNCLASSIFIED

PROCESSING DATE--04DEC70

UNCLASSIFIED

USSR

UDC:621.438.038.7:621.928.6

RYZHKOV, S. V., ZAROSSKIY, R. I.

"The Problem of 'Washing' the Air Entering a Marine Gas Turbine Engine  
with Water"

Sudostr. i Morsooruzh. Resp. Mezhved. Temat. Nauch.-Tekhn. Sb. [Ship-  
building and Marine Structures. Republic Interdepartmental Thematic  
Scientific and Technical Collection], 1973, No 21, pp 42-46 (Translated  
from Referativnyy Zhurnal Turbostroyeniye, No 11, 1973, Abstract No  
11.49.136)

Translation; "Washing" of air, that is spraying of water into a stream  
of air containing solid particles, causes the particles to be absorbed  
by drops of water, and also causes a film of liquid to be formed on the  
surfaces of the separating elements in the air cleaner. The flow of a  
viscous stream containing solid particles around a sphere is studied. A  
solution is produced on a Mir-1 computer by the method of atoms, and the  
capture factor is determined from the particle trajectories found. The  
absorption of particles by drops of water must be looked upon as the  
first stage in cleaning. The second stage consists of the separating  
elements in the air-cleaning devices. 2 Figures; 5 Biblio. Refs.  
1/1

USSR

RYZHKOV, S. V. and POLOVETS, Yu. A.

UDC 621.175.177:536.248.2

"The Separating Capacity of a Vertical Smooth-Pipe Bundle in a Two-Phase Stream"

Tr. Nikolayev. Korabstroyit. In-ta (Works of the Nikolayev Shipbuilding Institute), No 48, 1971, pp 63-69 (from Referativnyy Zhurnal, Turbostroyeniye, No 5, 1972, Abstract No 5.49.71)

Translation: An investigation is made of the separating capacity of four-space and eight-row smooth-pipe bundles 1000, 750, and 500 mm high, composed of pipes 12 mm in diameter in checkerboard position with relative transverse and longitudinal spacing of 1.833 and 1.042. The entrapment coefficient of a smooth-pipe bundle 1000 mm high equals 97.0% at a mainstream velocity of 5 meters per second. At higher air velocities (greater than 8 meters per second), decreasing the bundle height and increasing the number of pipes facilitates an increase of the entrapment coefficient. 3 figures. 4

1/1

- 36 -

USSR

RYZHKOV, V.A.

BRATOV, A.M.

KOLESNIKOVA, I.A.

KORNEYEV, V.N.

UDC 621.52:533.59.539.23

"Study Of The Composition Of Residual Gases In Deposition Units Under Industrial Conditions"

Sb. nauch.tr. po probl. mikroelektron. Mask. in-t elektron.tekhn. (Collection Of Scientific Works On Problems Of Microelectronics. Moscow Institute Of Electronics Technology), 1971, Issue 7, pp 13-18 (from RZh:Elektronika i yeye primeneniye, No 6, June 1972, Abstract No 6A57)

Translation: The results are presented of an analysis with the aid of a KM-1 quadrupole mass spectrometer of the composition of residual gases in the vacuum chambers of various types of deposition units. Under industrial conditions, and in the types of deposition units considered, the composition of residual gases differs but little and is determined by the technological process in progress and the individual condition of the unit. Vapors of water, nitrogen and oxygen and various hydrocarbons are the principal components of residual gases in deposition units. Substantial changes of the composition of the residual gases occur during heating of the substrates and deposition. The composition of the residual gases during deposition of thin films depends on the form of the material which is vaporized. The KM-1 mass spectrometer showed its usefulness for conducting qualitative analyses of residual gases under industrial conditions. A.F.

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USER

UDO 621.315.592

ANDRISEYEV, A.A., ALEXSEYEV, V.A., LEBEDEV, E.A., KONDRAIKOV, N., MELIKH, B.T.,  
REGLI, A.R., KIZYOV, YU.P. [Institute Of Semiconductors, Academy Of Sciences,  
USSR, Leningrad]

"Switching Effect In Fluid Semiconductors"

Fizika i tekhnika poluprovodnikov, Vol 6, No 4, Apr 1972, pp 651-666

**Abstract:** The switching effect is studied in a number of fluid semiconductors and the voltempore characteristics are shown for fluid Se ( $410^{\circ}\text{C}$ ), solid and fluid  $\text{Sb}_2\text{S}_3$  ( $210^{\circ}\text{C}$  to  $310^{\circ}\text{C}$ ) and up to softening temperature ( $170^{\circ}\text{C}$ ) and above ( $210^{\circ}\text{C}$ ). The circuit for measuring the voltempore characteristics of the switching effect is described. The high stability is emphasized of the switching effect in Se and  $\text{Sb}_2\text{S}_3$  over a wide range of temperatures. An illustration is presented of relaxation oscillations in fluid selenium with a frequency of 10 MHz at a temperature of  $230^{\circ}\text{C}$ . The results of the observations show that the switching effect is also found in fluid semiconductors. The effect is consistently observed over a wide range of temperatures. The effect is observed for materials with various values of the absolute conductivity from  $10^{-9}$  (Se) to  $10^{-1} \text{ ohm}^{-1} \times \text{cm}^{-1}$  ( $\text{Sb}_2\text{S}_3$ ). By a combination of the relationships revealed, the switching effect at high temperatures carries a mainly thermal character. This statement,

ADREYEV, A.A., et al, Fizika i tekhnika poluprovodnikov, Vol 6, No 4, Apr 1972,  
pp 651-656

however, does not exclude the electron mechanism as initiating the switching  
process. The studies of fluid semiconductors show that a structural phase trans-  
ition is not compulsory for manifestation of the effect. 9 fig. 9 ref. Received  
by editors, 14 July 1971.

2/2

- 184 -

USSR

RYZHOV, Yu. M.

UDC: 519.21

"On Some Stochastic Integrals"

Teoriya veroyatnostey i mat. stat. Mezhved. nauch. sb. (Probability Theory and Mathematical Statistics. Interdepartmental Scientific Collection), 1971, vyp. 4, pp 36-39 (from RZh-Kibernetika, No 12, Dec 71; Abstract No 12V212)

Translation: A stationary Gaussian process  $\xi(t)$  given in the form of a sliding summation is considered. It is shown that if the spectral density  $I(\lambda) = \frac{1}{2\pi} |h(i\lambda)|^2$  of process  $\xi(t)$  satisfies the condition  $\int_{-\infty}^{\infty} |t\lambda h(i\lambda) - I|^2 d\lambda < \infty$ , then a stochastic integral  $\int_0^t \phi(u) d\xi(u)$  can be defined for functions  $\phi(t)$  which satisfy the condition  $\int_0^t |M.\phi(u)|^{2+\delta} du < \infty$ . The properties of the integral are studied, in particular Ito's formula is proved. Author's abstract.

1/1

Acc. Nr.: AN0104560*R*Ref. Code: UR 9015

AUTHOR--

YENEVICH, BORIS, CORRESPONDENT

TITLE--

MYSTERIES OF THE "WEATHER KITCHEN"

NEWSPAPER--

RABOCHAYA GAZETA, JUNE 11, 1970, P 4, COLS 2-6

ABSTRACT-- THE "AKADEMIK VERNADSKIY", A RESEARCH SHIP OF THE SOVIET ACADEMY OF SCIENCES, HAS LEFT THE SEVASTOPOL FOR THE TROPICAL AREA OF THE ATLANTIC WHERE SHE WILL JOIN THE "DMITRIY MENDELEYEV" AND THE "AKADEMIK KURCHATOV", RESEARCH VESSELS OF THE OCEANOLOGICAL INSTITUTE. THE EXPEDITION IS HEADED BY CANDIDATE OF GEOGRAPHICAL SCIENCES PAVEL PAVLOVICH GANSON AND HIS DEPUTY, CANDIDATE OF GEOGRAPHIC SCIENCES YUVENTALIY GEORGIYEVICH RYZHKOV. THE MISSION OF THE EXPEDITION IS TO EXPLORE THE PRINCIPAL METEOROLOGICAL PROCESSES WHICH ARE RESPONSIBLE FOR CLIMATIC CONDITIONS OF THE WESTERN ASIATIC AND NORTHERN EUROPEAN PARTS OF THE SOVIET UNION.

THE "SERGEY VAVILOV" AND THE "PETR LESEDEV", SHIPS OF THE ACOUSTICAL INSTITUTE, THE "PROFESSOR VIZE" AND THE "PROFESSOR ZUBOV", WEATHER SHIPS OF THE HYDROMETEOROLOGICAL SERVICE, AND THE "MUSSON" AND THE "PASSAT" WILL PARTICIPATE IN THE EXPEDITIONARY WORK.

REEL/FRAME

19871134*pw  
12*

USSR

UDC 621.377.622.322.2.037.733

KORBASHOV, Yu. M., and RYZHKOV, V. I.

"A Procedure for Accessing a Memory Device"

USSR Author's Certificate, No 279704, Filed 7 Mar 68, Published 24 Nov 70  
(from Referativnyy Zhurnal -- Avtomatika, Telemekhanika, i Vychislitel'naya  
Tekhnika, No 8, 1971, Abstract No 8B205 P)

Translation: A procedure for accessing a memory device is proposed. The procedure involves recording all "digits" in the memory unit, sequential read-out, and regeneration of information. In order to record, in the matrix, information which is arranged in a checkerboard form, the signals which have been read and which have positive or negative polarity are gated.

1/1